

The Growing Naval Power	r_of
the Arab Gulf States	

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A Research Paper

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NESA 84-10311 December 1984

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A Research Paper

This paper was prepared by Office of
Near Eastern and South Asian Analysis, with a
contribution from Office of
Imagery Analysis. It was coordinated with the
Directorate of Operations.

Comments and queries are welcome and may be
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#### **Key Judgments**

Information available as of 15 November 1984 was used in this report.

The states of the Gulf Cooperation Council (GCC)—Saudi Arabia, Oman, Kuwait, Bahrain, Qatar, and the United Arab Emirates—have undertaken major efforts in the past decade to upgrade their navies. With the exception of the British-trained Omani Navy, however, the GCC state navies have limited combat effectiveness and will face substantial problems absorbing new ships and weaponry.

Since 1972 the six Arab Gulf states—led by Saudi Arabia—have contracted for over \$14 billion worth of warships, naval infrastructure, and training. All six navies operate patrol boats armed with advanced Harpoon or Exocet surface-to-surface missiles. Within two or three years, the Gulf navies will deploy a formidable array of frigates, fast missile attack craft, and auxiliaries of the latest design. Saudi Arabia will have one of the most modern fleets in the Middle East with guided-missile frigates capable of operating throughout the region.

Despite this massive expansion, most Gulf navies will continue to be beset by major deficiencies, including:

- Severe manpower shortages, especially of skilled personnel, which have forced dependence on potentially unreliable expatriates.
- Poorly educated naval recruits and limited experience with modern naval equipment and operations.
- Limited shipboard air defense weapons and inadequate procedures for coordinating land-based air support.
- An almost nonexistent minesweeping capability.
- Lack of naval infantry to defend offshore facilities, remote coastal areas, and islands.

As a result, the Arab Gulf states remain vulnerable to mining of major harbors, seaborne infiltration by terrorists or commandos, and interdiction of shipping by hostile air and naval forces.

Furthermore, the two major Gulf military powers—Iran and Iraq—are likely to improve their maritime capabilities, especially after their war ends. Iran is attempting to upgrade its offensive mine warfare capability, and we believe that, following the Iran-Iraq war, Tehran will move to rebuild its deteriorated naval strength. When its Italian-built ships are delivered, Iraq will emerge as a regional naval power. Baghdad already has a sizable force of aircraft configured to fire antiship missiles.

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In the near term the United States and other Western powers will be ultimately responsible for the maritime defense of the Arab Gulf states. The Gulf Arabs probably will lack the political will, as well as sufficient numbers of suitable ships and trained personnel, to assume the Shah's role as defender of the Gulf sea lanes. A major effort by either Iran or Iraq to deny the GCC states unimpeded use of Gulf sea lanes almost certainly will prompt an appeal to the West for assistance.

Nonetheless, we anticipate a gradual improvement in the Gulf Arabs' coastal defense capability over the next one to two years and a likely reduction in the need for Western intervention in some instances. The Gulf Arabs will become more capable of resisting small-scale naval attacks and harassment of their coastal shipping. This capability would be enhanced further if the Gulf states' air and naval forces can cooperate more effectively or if Saudi Arabia acquires Harpoon missiles for its F-15s.

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# **Contents**

|                                                           | Page |
|-----------------------------------------------------------|------|
| Key Judgments                                             | iii  |
| Maritime Insecurity                                       | 1    |
| Origins of Arab Gulf Naval Expansion                      | 2    |
| Saudi Arabia: A Growing Naval Power                       | 2    |
| Strategy and Capability                                   | 4    |
| Potential Problems                                        | 7    |
| The Smaller Gulf Navies                                   | 9    |
| Oman: Small but Efficient                                 | 11   |
| The Gulf Emirates                                         | 13   |
| Kuwait                                                    | 15   |
| Bahrain                                                   | 15   |
| Qatar                                                     | 16   |
| United Arab Emirates                                      | 17   |
| The Gulf States' Navies and the Regional Maritime Balance | 17   |
| Implications for the United States                        | 20   |

# Appendixes

| A.     | Major Warships in the Persian Gulf Navies                      | 23 |
|--------|----------------------------------------------------------------|----|
| <br>В. | Guided-Missile Corvettes and Fast Attack Craft in Persian Gulf | 25 |
|        | Navies                                                         |    |



Secret vi

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| units in shallow-draft boats or Hovercraft. Alternatively, Kuwait's central coastal area, where the bulk of the country's economic facilities are located, has beaches and coastal waters that offer few impediments to a conventional amphibious assault.  Moreover, two major choke points offer a hostile power the opportunity to bottle up Gulf merchant shipping and naval forces. The Strait of Hormuz is vulnerable to Iranian air and naval interdiction. In addition, when in transit between coasts, Saudi naval forces and a substantial portion of Saudi shipping must pass through the even narrower Bab el Mandeb strait that separates the Red Sea from the Gulf of Aden. The People's Democratic Republic of Yemen (South Yemen) controls Perim Island and thus can hamper ship traffic through that waterway in times of conflict | 25X1          |
| The extensive offshore oil installations of the Gulf states present additional defense problems. Most Gulf states have numerous tanker loading facilities or offshore production platforms that are highly vulnerable to attack by surface warships, aircraft, or naval commandos. Developments during the Iran-Iraq war have demonstrated the vulnerability of these facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 25 <b>X</b> 1 |
| In November 1980 Iranian commandos supported by F-4s and up to nine warships overwhelmed the small Iraqi forces guarding two offshore loading platforms. After a two-day battle, Iraqi forces retook the platforms but not before the Iranians had destroyed the facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 25X1          |

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The Growing Naval Power of the Arab Gulf States

## **Maritime Insecurity**

Increasing concern over the vulnerability of their coastlines has led the six Gulf states of the Arabian Peninsula—Saudi Arabia, Oman, Kuwait, Bahrain, Oatar, and the United Arab Emirates—to embark on substantial naval modernization programs. Most of the Arab Gulf states have lengthy, often sparsely populated, coastlines that historically have been open to smugglers using small vessels such as the traditional dhow. Saudi Arabia's coastline along the Persian Gulf, for example, extends over 500 kilometers, and its Red Sea coast is about 1,700 kilometers long. The entire southern Gulf littoral of the Arabian Peninsula is over 1,700 kilometers long, and its jurisdiction is shared among six different states—a factor that complicates attempts to coordinate military action.

Vital economic targets, such as oil facilities and desalination plants, are concentrated along or just off the coasts of most Gulf states. Located between Ad Dammam and Al Jubayl on Saudi Arabia's Gulf coast, for example, are over 80 percent of the kingdom's oil and gas export facilities and about 60 percent of the country's port capacity.

Substantial reefs and shoals front both the coast of the southern Gulf and the Red Sea coast of Saudi Arabia. Access to many major ports is through narrow channels that are vulnerable to mining and naval blockade. Primary access to Saudi Arabia's Gulf coast ports, for example, is through three main channels that are 25 to 30 nautical miles long.

The reef structures fronting much of the southern Persian Gulf coastline also serve a defensive purpose. Such formations prevent inshore operations by major surface combatants—except in specially dredged shipping channels—and preclude large-scale, conventional amphibious operations. The greatest danger from naval forces to the numerous coastal oil installations, desalination plants, and other economic facilities along the southern Gulf littoral is from commando

facilities. Recent Iranian air attacks on Gulf Arab commercial shipping and occasional harassment of merchant vessels by Iranian naval forces have highlighted the vulnerability of merchant traffic to hostile military action. The volume of shipping in the Gulf is heavy, and the economies of the GCC states depend substantially on the uninterrupted passage of commercial maritime traffic. Moreover, some of the Gulf states

#### The Red Sea: Growing Strategic Value

The Red Sea is an area of increasing strategic importance to Saudi Arabia. The US Embassy has noted that 62 percent of Saudi imports came through Saudi Red Sea ports in 1983. In addition, exports of crude oil from Yanbu' al Bahr total about 500,000 barrels a day, and the Saudis plan to allow Iraq to build a pipeline to the Red Sea. Red Sea facilities also serve as a transshipment point for Chinese and Soviet weapons destined for Iraq. Finally, thousands of Muslim pilgrims travel to Saudi Arabia each year during the Hajj, and the Saudis consider themselves responsible for guaranteeing the pilgrims' safe passage.

The Saudi flotilla at Jiddah is one of the most modern deployed by any state along the Red Sea. Nonetheless, Saudi naval forces in the Red Sea suffer from many of the same limitations as those in the Persian Gulf and would stand no chance against the well-trained Israeli Navy. We judge, however, that they would have little trouble dealing with North Yemen's small, ineffective Navy. Given the narrowness of the Bab el Mandeb Strait and Aden's local defenses, operations against South Yemen probably would require more effective air support and a higher degree of operational competence than currently possessed by the Saudi Navy.

maintain substantial merchant fleets of their own. Saudi Arabia has one of the fastest growing merchant fleets in the world. Riyadh's merchant fleet tonnage increased by almost 90 percent from 1981 to 1982, according to open sources. Over one-third of all Arab merchant vessels now belong either to the Saudi Government or private Saudi companies.

## Origins of Gulf Arab Naval Expansion

Until the late 1970s, the Arab Gulf states relied primarily on other countries to protect their coasts and the sea lanes around the Arabian Peninsula. The Gulf Arabs looked first to the United Kingdom to maintain freedom of navigation in the Gulf and then,

more reluctantly, acknowledged the Shah's self-proclaimed role as successor to the British. The growth of the Gulf Arab naval forces corresponds almost exactly with the removal of these external guarantors of security. In 1972, following the United Kingdom's withdrawal from the region, Saudi Arabia initiated its US-supervised naval expansion program. Later, the overthrow of the Shah and the rise of a hostile Islamic regime in Tehran provoked a surge in warship orders from the Gulf states.

Although the GCC states' naval expansion has been undertaken primarily in response to potential threats from Iran, we believe other factors have also encouraged naval modernization. First, the dramatic increase in oil revenues following the Arabs' oil embargo in 1973 enabled all of the Gulf states to afford modern warships. Second, since 1968 the Soviets have maintained a regular presence in the Indian Ocean and Red Sea—a development of particular concern to Saudi Arabia because it has been accompanied by the growth of Soviet influence in the Yemen Arab Republic (North Yemen) and South Yemen. Third, Iraq, long feared by the smaller Gulf states because of its aspirations to regional hegemony, is engaging in a substantial naval modernization program.

#### Saudi Arabia: A Growing Naval Power

We estimate that since 1972 Riyadh has contracted for about \$13 billion worth of naval equipment and services as part of its overall military expansion program. A nation with no maritime tradition, Saudi Arabia's naval forces historically have consisted of little more than a handful of small coastal patrol boats. By 1986, however, the Saudis will deploy a formidable array of frigates and fast missile attack craft. The weaknesses of other naval forces in the area and the modernity of Saudi equipment suggest that Riyadh's fleet will be a prominent factor in the regional naval balance. Nonetheless, we judge that manpower, training, and operational problems; the lack of a clearly defined naval strategy; and inadequate air support probably will hamper the Saudi Navy's effectiveness for some time.

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Table 1
Persian Gulf Naval Balance

|                       | Iran   | Iraq  | Saudi<br>Arabia | Oman  | Kuwait | Bahrain | Qatar | UAE   | South<br>Yemen | North<br>Yemen |
|-----------------------|--------|-------|-----------------|-------|--------|---------|-------|-------|----------------|----------------|
| Personnel             | 15,000 | 4,500 | 5,500           | 2,000 | 600    | 100     | 700   | 1,250 | 1,000          | 950            |
| Destroyers a          | 3      |       |                 |       |        |         |       |       |                |                |
| Frigates <sup>a</sup> | 4      | (4)   | (4)             |       |        |         |       |       |                |                |
| Corvettes b           | 2      | (6)   | 4               |       |        |         |       |       |                |                |
| Missile boats b       | 11     | 10    | 9               | 4     | 8      | 2       | 3     | 6     | 8              |                |
| Torpedo/gun boats     |        | 8     | 3               | 8     |        | 2       | 6     | 6     | 3              | 6              |
| Amphibious units      | 13     | 3     | 12              | 8 (1) | 6      | 1       |       |       | 8              | 2              |
| Mine warfare craft    | 4      | 8     | 4               |       |        |         |       |       |                | 2              |

<sup>&</sup>lt;sup>a</sup> For further detail see appendix A.

Note: Numbers in parentheses indicate units under construction in Europe and likely to be delivered to Gulf navies in 1985-87.

Saudi Arabia turned initially to the United States for assistance in constructing a modern navy. Embassy and attache reporting indicates that under the almost \$8 billion Saudi naval expansion program initiated in 1972:

- Riyadh has received from the United States four Badr-class corvettes and nine Al-Siddiq-class patrol boats—all armed with Harpoon antiship missiles as well as four minesweepers and 12 landing craft.
- The United States has overseen the construction of two large naval bases—King Abdul Aziz at Al Jubayl on the Persian Gulf and King Faisal at Jiddah on the Red Sea—and a headquarters complex at Riyadh. These two bases contain extensive and highly modern fleet support and training facilities, including a five-year store of spare parts for the US-built vessels at each base.
- The Saudi Navy is installing an advanced automated command, control, and communications system linking underground command centers at the two bases with Navy headquarters in Riyadh. Scheduled

to be fully operational by late 1985, the system includes secure data transmissions through landline and high-frequency networks and an automated graphic display of friendly and attacking forces.

- The United States has assisted in the training of approximately 2,000 Saudi naval technicians, pilots, and other specialists in the United States and Saudi Arabia.
- The Saudis have requested US help in establishing marine/special operations units as well. The Navy hopes to expand this force—which currently numbers only about 200—to 3,500 men including units patterned after US SEAL commando teams

Saudi Arabia's decision to acquire warships from France in 1980 signaled Riyadh's determination to construct a navy capable of more than just coastal patrolling. Under the "Sawari" contract the Saudis have purchased four F-2000-class guided-missile frigates, two oilers, and 24 Dauphin helicopters—20 of

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<sup>&</sup>lt;sup>b</sup> For further detail see appendix B.



Saudi US-built Al-Siddiq-class fast missile attack boat. There are nine ships of this class in the Saudi fleet, and each carries four Harpoon surface-to-surface missiles.

which will be armed with AS-15TT air-to-surface missiles. The \$5.2 billion French program also provides for French training of Saudi naval personnel in France and in the kingdom as well as the construction of support facilities for the frigates and helicopters. The program's ship construction schedule appears to be proceeding relatively smoothly. According to defense attache reporting from Jiddah and Paris, one oiler arrived in August 1984, at which time the crew of the first frigate—which is undergoing sea trials—was scheduled to go to France for five months of training. All of the frigates and the remaining oiler are scheduled to be in Saudi Arabia by 1986. Initial delivery of the helicopters to Saudi Arabia will begin in April 1985, according to attache reporting.

#### Strategy and Capability

The Saudis have not yet formulated a comprehensive strategy for the use of their growing Navy. At present, Embassy and attache sources in Jiddah report that the US-built combatants usually are split equally between the Red Sea and Persian Gulf, depending on the international situation. The main mission of these units probably will be coastal defense, for which they are best suited.

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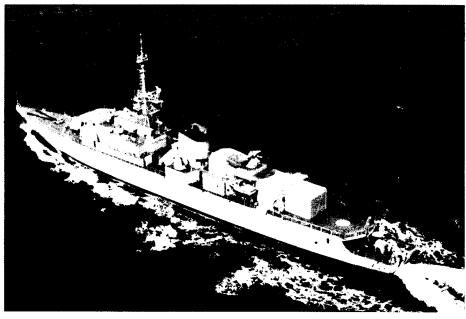
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The future of the French ships is less clear. With their superior seakeeping qualities, greater endurance, antisubmarine and surface-to-air missile armament, and embarked helicopter, the French frigates are capable of extended multirole combat operations all around the Arabian Peninsula. The naval command does not seem to have decided where to station the four frigates and may decide to station two, with an

accompanying support ship, at each major base. Stationing of a Dauphin helicopter squadron at each base also is likely, in our view. Attache sources in Paris reported in March 1984 that the Arabian Sea would be a primary operating area for the frigates, perhaps

The new Saudi frigate Madina undergoing sea trials in France in late 1984



Jane's Defense Weekly ©

suggesting that the Saudis plan eventual operations to support Oman's Navy near the Strait of Hormuz. As Saudi naval personnel gain experience with both the US and French ships, Riyadh may increasingly employ them in a "show-the-flag" role in support of Saudi diplomacy around the Arabian Peninsula and the Indian Ocean. A Saudi squadron visited Berbera, Somalia, in November 1984, for example—the first visit by Saudi warships outside the Arabian Peninsula.

On paper at least, Saudi Arabia has purchased a naval force that will be a formidable regional force—both in the Red Sea and the Persian Gulf—whatever its eventual mission. Ships now operational or on order compare favorably with those under construction for Iraq and are generally superior to warships in the Iranian Navy, in our judgment:

• The Saudi Navy's antisurface firepower is particularly impressive. The Otomat MKII and Harpoon long-range antiship missiles will give the Saudi Navy significant over-the-horizon striking power. The AS-15TT-equipped Dauphin helicopters provide additional antisurface punch—primarily against small coastal patrol vessels and landing craft at short ranges. They also can serve as coastal surveillance and over-the-horizon target designation platforms for long-range antiship missiles.

- Air defense systems on the Harpoon-equipped US-built ships include the proven SPS-40b longrange air search radar on the corvettes and 20-mm Phalanx guns for close-in defense on all US-supplied combatants. The Badr-class corvettes also carry the SLQ-32 electronic warfare system. The air defense package aboard the frigates includes the point defense Crotale surface-to-air missile system and 40-mm guns. Both the Phalanx and the Crotale systems are also intended for use against seaskimming antiship missiles.
- Although the local antisubmarine threat is limited, the F-2000-class frigates will carry advanced sonar, and both the French ships and the US corvettes mount antisubmarine torpedoes.
- We believe Saudi plans call for the eventual acquisition of long-range maritime patrol aircraft such as the US P-3 or the French Atlantic. At present, however, the Navy probably intends to rely on surface search radars and information provided by AWACS aircraft.

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Table 2
Persian Gulf: Surface-to-Surface Missile Systems

|                     | User                                     | Maker         | Maximum<br>Range<br>(kilometers) | Guidance                                      | Warhead Size<br>(kilograms) |
|---------------------|------------------------------------------|---------------|----------------------------------|-----------------------------------------------|-----------------------------|
| Otomat MKII         | Saudi Arabia and Iraq                    | Italy         | 180                              | Autopilot with active radar terminal guidance | 210                         |
| Exocet MM-40        | Oman, Kuwait, Bahrain,<br>Qatar, and UAE | France        | 70                               | Autopilot with active radar terminal guidance | 165                         |
| Harpoon             | Saudi Arabia and Iran                    | United States | 110                              | Autopilot with active radar terminal guidance | 227                         |
| SSN-2-B             | Iraq and South Yemen                     | USSR          | 46                               | Autopilot with active radio terminal guidance | 400                         |
| Sea Killer MKII     | Iran                                     | Italy         | 27                               | Beam rider                                    | 70                          |
| Standard (RGM 66 F) | Iran                                     | United States | 25 to 30                         | Semiactive radar homing                       | 63                          |
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• The two underway replenishment ships—one of which has already joined the fleet and participated in an exercise with Oman—will provide the Navy with operational flexibility, assuming the Saudis can master underway refueling techniques. The 10,800-ton ships, which are modified versions of the capable French Durance-class replenishment ships, will facilitate the transit of warships between the Red Sea and the Persian Gulf and permit extended Saudi operations throughout the region.

#### **Potential Problems**

Saudi Arabia's ability to absorb and effectively use all of its new naval equipment is, in our judgment, questionable. As with any rapidly expanding military force, the Navy is experiencing numerous problems. Since 1975 it has received at least two new ships a year, including warships and support vessels. In 1985-86 France will deliver the four F-2000-class frigates and the remaining oiler. Effective absorption and utilization of such a large number of modern ships would probably prove a difficult task even for a more experienced navy, much less one that as late as 1973 had only about 500 men and a few patrol craft.

Manpower shortages are the all-volunteer Navy's biggest problem.

sufficent manpower to meet its growing needs was the Navy's preeminent concern. Attache sources estimate that the current 5,500-man force may eventually have to be expanded to more than 10,000 men to crew and support fully its new warships. The Saudis will, for example, need almost double the number of men currently serving on their US-built warships to crew the French frigates and support ships. This personnel shortage has probably ruled out major warship orders for the next few years. The attache's office in Jiddah reports that lack of manpower was the primary reason behind the Saudi decision in late 1983 to shelve plans for the purchase of two US or French guided-missile destroyers.

As with the other services, the Saudis have had to turn to outside sources for additional personnel—especially highly skilled technicians. According to Embassy sources, Saudi Arabia approached Pakistan—whose naval personnel are represented in every Arab Gulf navy—with a request to help crew its French ships shortly after ordering the frigates. Attache sources indicate that the Pakistanis already are heavily involved in the training of Saudi naval personnel—there were 280 Saudis at Pakistan's naval academy in 1982, as compared with 149 Pakistanis—and

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hold important technical and advisory positions within the Saudi naval structure. Moreover, the Saudis retain a US company to maintain the recently acquired US-built patrol craft.

We anticipate that expatriate personnel will continue to play a major role in the Saudi Navy for some time as the fledgling fleet struggles to establish itself and competes with the other services for manpower. Expatriates will be most heavily represented in technical positions because the high-paying private sector attracts the majority of skilled Saudis, and most of those who join the services usually lack the educational background to assimilate quickly detailed information about advanced equipment. In addition, the lure of profitable civilian employment and the Navy's lack of prestige also make retention of qualified native personnel a major problem. Heavy reliance on expatriates could present problems if foreign personnel refuse to serve in combat. The US military mission in Saudi Arabia reported in July 1984, for example, that the contractor maintaining the Navy's US-built ships was experiencing difficulties attracting applicants because of the upsurge in fighting in the Iran-Iraq war. Consequently, the readiness of the fleet has suffered as key weapons systems aboard the ships remain inoperable.

The Saudis are attempting to carry out the extensive training needed to make the Navy fully combat ready. After some initial mishaps, the Saudis are gradually becoming more proficient with their US-built missile corvettes and patrol boats. Over the past year, exercises with US units in the Persian Gulf and the Red Sea, as well as exercises conducted by the Saudis themselves, have progressed from basic seamanship drills to more complex maneuvers. In 1984, according to attache reporting, the Saudis have carried out gunnery, mine warfare, and fleet air defense exercises. In addition, during the Red Sea mining crisis of August-September 1984, the Saudis sent two minesweepers with an escort of missile boats from Al Jubayl to Jiddah with stops in Oman and Djibouti. In October 1984, moreover, Saudi naval forces conducted their first major joint exercise with the Omani Navy off the coast of Oman. Saudi forces involved included an oiler, one missile corvette, and two missile boats. Attache reports indicate that the Saudis carried out underway replenishment operations en route to Muscat. Following the exercise, the Saudi squadron called at Berbera, Somalia.

Although the proficiency of individual units has improved, the Navy remains far from a well-drilled, cohesive force. The performance of the small Saudi squadron that took part in the exercise with Oman and later visited Somalia indicates that Riyadh's Red Sea flotilla at least has a core of ships with crews experienced enough to undertake extended voyages along the coast of the Arabian Peninsula. Much of the fleet, however, appears capable of little more than sporadic coastal patrols, and the Navy probably could not prevent infiltration, especially at night. Despite its modern equipment, we believe that effective minesweeping remains beyond the Navy's capabilities—an assertion supported by US Navy reporting from late 1983 that rated Saudi mine warfare skills as generally low. Retention of technical skills and maintenance of advanced equipment such as that present on the minesweepers is hindered by normal attrition, the low education of Saudi enlisted personnel, the embryonic state of the Navy's education system, and transfers of trained personnel to positions where they are more urgently needed. In addition, we have no indication that the Navy has successfully fired any Harpoon missiles in Saudi waters, and we doubt it can make full use of the weapon's capabilities at this point. There also is little evidence to suggest that the Saudis have conducted many tactical maneuvers or begun development of a comprehensive naval tactical doctrine.

Assimilation of the French ships into the fleet will, in our view, probably preoccupy the Navy for the next two to three years and preclude additional major warship purchases. We anticipate a significant drop in readiness as the French frigates—which are much larger and more complex than the US ships—begin to arrive. Many of the few qualified men available may be reassigned to the French program, thereby degrading the operational readiness of the rest of the fleet. Naval enlisted trainees in France have experienced problems mastering both French and the advanced systems of the new frigates. Attache sources also report that the Saudis are experiencing problems integrating US and French systems.

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Budgetary constraints arising from reduced oil revenues are also curtailing the Navy's rapid expansion. Embassy and attache sources indicate that some of the Navy's US-sponsored programs have suffered severe cutbacks—current arrearages on payments to the United States total about \$800 million—which have forced delays in the construction of several training centers and other support items. In addition, attache sources have reported that deferred Saudi payments to France have prompted Paris to delay construction of ship repair facilities at Jiddah, and helicopter training support facilities at Al Jubayl.

The Saudi Navy suffers from a major doctrinal weakness, in our view—the lack of an effective system to coordinate land-based air support of naval units. Given the Navy's lack of area air defense weapons, effective protection of warship and merchant ship convoys from air attack will require close cooperation with land-based air units. Exercises in which Saudi naval vessels have called in fighters have taken place, but we are unsure of their frequency and are skeptical of the Air Force's commitment to support the Navy, especially in a general conflict when it will be fully occupied with air defense. In addition, interservice rivalries have hindered cooperation between the Navy and the Air Force, which is Saudi Arabia's senior service.

purchase of maritime patrol aircraft was facing difficulties because of jurisdictional disputes between the Navy and the Air Force. Saudi Air Force leaders believe that the Air Force should retain responsibility for all fixed-wing military aviation.

To compensate for the lack of dedicated naval air cover, the US defense attache in Paris indicates that the Saudis have considered arming some of the French Dauphin helicopters with air-to-air missiles. Moreover, attache sources indicate that the Saudis plan to place Stinger shoulder-launched surface-to-air missile teams aboard some naval combatants.

The Air Force, however, is trying to acquire weapons that will enable it to support the Navy more effectively. In October 1984 the Saudis requested Harpoon missiles for use with their F-15s. If the Air Force

obtains the Harpoon, Saudi Arabia's ability to protect the sea lanes around the Arabian Peninsula will be enhanced significantly, in our judgment. Air-refueled F-15s could patrol the approaches to both the Red Sea and the Persian Gulf to prevent hostile surface or air forces from interfering with commercial ship traffic. Harpoon-equipped F-15s, moreover, would provide the Saudis with a maritime strike platform far superior to Iran's dwindling force of F-4s and surpassing the Exocet-equipped F-1 Mirage and Super Etendards used by Iraq. In addition to the Harpoon, the Saudi Air Force has requested 800 Maverick AGM-65D imaging infrared missiles for use with its F-5s. These weapons, advanced versions of the Mavericks already in the Saudi inventory, would upgrade the Air Force's ability to prevent infiltration.

The limited capabilities of the Saudi naval infantry constitute an additional weakness. We see little indication that the naval infantry program has progressed significantly—probably a result of the Navy's severe manpower difficulties. Some personnel apparently have received US SEAL-type training, but we are unaware of any unit instruction in such important missions as defense of offshore facilities. Lack of dedicated airlift and sufficent sea transport also limit the naval infantry's effectiveness.

#### The Smaller Gulf Navies

The smaller Persian Gulf states have expanded their navies rapidly over the last five years. By the end of 1984, Oman, Kuwait, Bahrain, Qatar, and the United Arab Emirates—which collectively have probably spent about \$1.5 billion on warships, helicopters, and naval infrastructure—will deploy modern, West European—built patrol craft armed with Exocet surface-to-surface missiles.

Although the smaller Gulf navies are and intend to remain primarily coastal defense forces, recent acquisitions will substantially improve long-range antisurface firepower and, we believe, provide a somewhat 25X1

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#### Fast Missile Attack Craft

The modern fast missile attack craft, the backbone of the Gulf Arab navies, is a formidable weapon well suited to the coastal defense requirements of the Arab Gulf states. Designed for antisurface warfare in enclosed waters, the craft's small size, relatively moderate cost, and advanced weaponry limit its manpower requirements, increase the number each state can acquire, and maximize firepower. Westernbuilt missile boats usually displace between 250 and 450 tons, carry four to eight antiship missiles, and have top speeds of around 30 to 40 knots.

The development of long-range antiship missiles and advanced electronics has provided coastal patrol craft with antisurface firepower previously restricted to much larger warships. The Exocet MM-40 and Harpoon missiles now deployed on most Gulf Arab patrol boats can strike targets at ranges of 70 to 100 km. Reaching targets at most extreme ranges requires an aircraft for over-the-horizon targeting. In this role, the aircraft passes targeting information back to the ship that in turn relays it to the missile either before launch or, in the case of the Otomat II, as a midcourse guidance update. Other weapons carried include 76-mm and 40-mm or 30-mm guns for antisurface, shore bombardment, and antiaircraft roles. Electronics can include advanced surface and air search radar, highly modern fire-control systems. and active/passive electronic countermeasures (ECM) equipment.

To defeat both larger opponents and other fast attack craft, missile boats rely on speed, their small radar signature, and surprise. Boats usually patrol in pairs or threes and engage targets with a salvo of antiship missiles designed to saturate an opponent's defenses.

Single boats can also lurk in coastal inlets near choke points and, using the terrain to mask their movements, strike larger warships before retreating into inshore waters. Evasive maneuvers and use of chaff launchers and other ECM equipment are common tactics employed to defeat incoming antiship missiles.

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The need for maritime air support is critical given the inadequate air defenses aboard fast missile boats. Small patrol craft can at present carry only light, short-range antiaircraft guns too slow to track attacking jet aircraft effectively and unable to hit strike fighters armed with standoff missiles. Close cooperation with land-based air units is mandatory. West Germany is developing a compact surface-to-air missile for installation aboard its fast missile attack craft that should be operational within the next two years. The Gulf navies could upgrade their missile boats with this system in the near future if it is successful in German service.

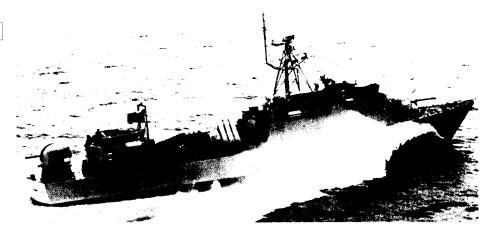
Of all the Gulf fleets, only Oman, which has been operating missile boats longer than any other Gulf state, has developed effective naval tactics. A US naval source reported in 1982 that the Omanis maintained a series of hide points for their missile boats around the Musandam Peninsula and that Omani merchant ships acted as tenders to the patrol boat force by supplying food and fuel. The Omani Navy also drills regularly with the Air Force, although the lack of suitable airfields prohibits maintenance of sustained fighter cover near the Strait of Hormuz. Oman is the only Gulf state known to have practiced over-the-horizon targeting techniques.

<sup>a</sup> For further detail, see appendix B.

more credible deterrent to Iranian attack. Nonetheless, manpower shortages—which have resulted in heavy dependence in all Gulf navies on expatriates—and limited experience with modern naval equipment are likely to ensure that most smaller Gulf fleets remain only marginally effective for some time.

Moreover, except for Oman, the smaller Gulf states still need—either individually or through expanded regional cooperation—to develop procedures to ensure adequate land-based air support for their navies.

Omani Province-class fast missile attack craft, three of which are now in service.



#### Oman: Small but Efficient

In our judgment, Oman's Navy-heir to a native seafaring tradition extending back centuries—is the most efficient on the Arabian Peninsula and probably would give a good account of itself in limited surface actions against Iran or South Yemen. Effective training, frequent exercises, and constant patrols have produced a navy skilled in ship handling and fast patrol boat tactics. Oman's Navy also drills extensively with the Omani Air Force, and as a result these forces have developed effective joint operational tactics. Because of its experience, the Omani Navy has pioneered joint naval exercises among the Gulf states' new navies. According to attache reports, Omani warships participated in maneuvers with both the Saudi and UAE Navies in late 1984. Nonetheless, the Navy's small size and limited capabilities, along with the limited availability of air cover at the Strait of Hormuz, render it incapable of sustained defense against major regional powers. In addition, the small size of some of its combatants and the monsoons prevalent along the southern coast from June through September limit many ships to coastal patrolling in the summer.

The effectiveness of Oman's Navy is due primarily, in our view, to the presence of capable British naval officers throughout the service. The Navy is commanded by a seconded British rear admiral, and British naval personnel hold important staff and command postions. Omanization has nonetheless made progress. Recent attache reporting indicates that Omani officers command all but one missile

patrol boat. Still, we anticipate that British officers will continue to maintain important positions within the naval structure for some time as Oman struggles to find qualified officer candidates. Moreover, the sultanate's shortage of suitable manpower probably will ensure that Pakistanis continue to fill almost all of the maintenance billets in the 2,000-man fleet.

The first Gulf Arab navy to deploy fast missile attack boats, Oman has just acquired a new generation of these craft. Two additional 57-meter Province-class boats, armed with Exocet MM-40s, arrived in May 1984 from the United Kingdom. With three of this larger, better equipped craft now in service, along with one older 37.5-meter missile boat, Oman has significantly improved its antisurface firepower and now has missile-equipped warships large enough to operate off the southern coast during the monsoon season. To use the new missiles at maximum range, however, the Omanis will have to perfect techniques of employing aircraft as over-the-horizon targeting platforms. Attache reporting indicate that the Navy has conducted targeting experiments with converted Air Force Skyvan aircraft and plans to test-fire its first Exocet MM-40 in mid-1985.

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The Navy's remaining combatants include four fast attack craft that mount 76-mm guns and four smaller, more lightly armed ships. Given their lack of longrange armament and relatively small size, these ships are, in our view, useful mainly for coastal patrolling. The larger 76-mm gun vessels could provide limited naval gunfire support and harass lightly armed support units of an opposing naval force.

Oman's ability to patrol and monitor shipping through the Strait of Hormuz—perhaps the Navy's most important task—has recently increased. To bolster regular patrols by helicopters and small Coast Guard vessels, Muscat has installed a maritime surveillance radar at the Strait and outfitted an Air Force Skyvan aircraft as a maritime reconnaissance platform. Pleased with the success of the Skyvan conversion, the Navy. plans to have

three more similarly equipped aircraft operational by late 1985. Equipment to outfit two additional Skyvans as maritime patrol aircraft if necessary also will be available by late next year. In addition, Oman usually stations three patrol boats, including a missile boat, at the Jazirat al Ghanam (Goat Island) Naval Station.

Maintenance of a continuous surface presence in the Strait is hampered by the distant location of Oman's major naval base at Muscat. Patrol boats based at the small, sparsely equipped Goat Island facility must often rotate back to the capital for repairs. To deceive the Iranians about the Navy's strength at the Strait, Oman has placed a deactivated patrol boat with empty missile canisters at Goat Island

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| To provide enhanced support for ships operating in the Strait and relieve overcrowding at Muscat's port, the Navy is constructing a large base at Wudham 'Alwa'. Scheduled to open in 1986, this modern facility, which is somewhat closer to the Strait than Muscat, will include a deepwater harbor, fully equipped dockyard capable of servicing all Omani ships, and training center. Reports on the status of the base conflict. One attache source indicated in early October 1984 that construction of the base was proceeding on schedule,                         |
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| Oman's extensive coastal area—its coastline is almost 2,000 km long—combined with its limited road network and potential threats on its widely separated northern and southern frontiers has led to the development of the most effective amphibious force among the Gulf states. With one large landing ship operational, one under construction, and seven smaller landing craft—two of which can carry tanks—the Navy can sealift combat and support units to the Musandam Peninsula on the Strait of Hormuz or the South Yemen border. The landing ship being built in |

the Musandam Peninsula in the face of a large-scale, determined Iranian attack. Despite the degree of cooperation achieved with the Omani Air Force, Oman's surface forces are vulnerable to Iranian airpower. Without bases on the Musandam Peninsula, aircraft must stage from Muscat and have only limited on-station time near the Strait. Iranian aircraft, on the other hand, can stage from their much closer base at Bandar-e 'Abbas. Oman's attempts to bolster the limited air defense capabilities of its warships—such as stationing SA-7 and Blowpipe detachments aboard—probably would prove only marginally effective. Moreover, assuming Omani seaborne reinforcements reached the area intact, the Navy probably could not provide sufficient gunfire support to guarantee success in an opposed landing on the Musandam Peninsula.

Oman also lacks a minesweeping capability, although the government has long believed that mining of the Strait is the greatest potential threat to shipping. Attache sources indicate that Oman has periodically expressed interest in acquiring mine countermeasures ships and has received some instruction in mine warfare techniques from the British. According to the US Embassy in Muscat, recognition of its vulnerability to mine warfare led Oman in February 1984 to seek a commitment from the United Kingdom to provide a mine countermeasures force if required. The British agreed to the Omani request but told Muscat that they retained the right to determine if deployment was necessary and expected Oman to pay at least part of the cost of any operations. The British estimated that UK forces coming from Europe would take 32 to 42 days to reach the Strait of Hormuz and about 17 to 24 days if coming from the Mediterranean

Annual triservice exercises simulating reinforcement of the Musandam Peninsula following an Iranian invasion have further sharpened the Navy's amphibious skills and improved overall cooperation among the services, according to attache reporting. In 1983, for example, Air Force C-130 aircraft and naval transports brought in elements of a Rapier SAM unit, ground forces, and support elements to reinforce the Musandam garrison. Jaguar fighters from Muscat flew top cover, and patrol boats escorted the reinforcement convoy.

the United Kingdom will greatly improve Omani

time.

amphibious capabilities. The 93-meter ship can carry seven tanks and up to 240 men. When it enters service

in late 1984, the Omanis will be capable of sealifting over 400 troops and up to 15 armored vehicles at one

Despite its gradually improving capabilities, the Omani Navy can neither effectively maintain free passage through the Strait of Hormuz nor reinforce

#### The Gulf Emirates

Over the past three to four years the Gulf emirates have constructed modern navies almost from scratch. Although no joint plan governed the decisions of individual emirate navies, all had similar needs and therefore purchased warships with similar characteristics. Each state has fast missile attack craft armed with Exocet MM-40 missiles and 76-mm main guns. Kuwait and Qatar plan to deploy air-launched antiship missiles as well.

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#### Gulf State Coast Guards

The Gulf state coast guards are charged with inshore patrolling, search and rescue, harbor security, prevention of smuggling, apprehension of illegal immigrants, and other traditional marine police duties. Because of inadequate equipment, poorly trained personnel, and other deficiencies, most remain only marginally capable. Moreover, we expect that, in many of the smaller states, coast guard proficiency will deteriorate as experienced personnel—both native and expatriate—are absorbed into the rapidly expanding naval forces. As a result, we believe that most Gulf state coast guards will provide only limited assistance to the new Gulf navies—especially in the important mission of preventing infiltration.

The lack of a coastal radar network also hinders effective policing of the Arab Gulf states' long, intricate coastlines. Most of the states have drawn up plans for extensive radar chains designed to detect infiltrators but so far we have seen little indication that such plans have progressed significantly. Until such systems are active and tied together by an efficient command, control, and communications system, vulnerability to well-planned infiltration will continue to be a major regional defense problem.

Saudi Arabia's Coast Guard, which is part of the Ministry of Interior's Frontier Forces, cannot adequately police the kingdom's lengthy coastline. At present the Coast Guard has 400 to 500 patrol boats of various sizes and about 20 British-built Hovercraft. Embassy reporting indicates that the equipment is poorly maintained, mostly unsuitable for extended patrols, and Coast Guard personnel usually lack sufficient training. In addition, despite the increased Saudi funding since 1979 for improvement of internal security forces, we are unaware of major expansion programs planned for the Coast Guard. We believe that many of its coastal patrol functions may eventually devolve to the Navy with the Coast Guard retaining responsibility for harbor security and manning observation points along the coast

Oman's Coast Guard—the marine arm of the Royal Oman Police—has about 12, mainly British-built patrol craft. Although its equipment is well maintained and personnel generally competent, the small size of the police boats limits them largely to inshore patrolling around the Muscat area and off the Musandam Peninsula. In addition, because of their light armament, police craft have almost no combat capability. We are unaware of major Coast Guard expansion plans and anticipate that the Navy will continue to receive the majority of funds allocated for maritime security.

Kuwait's Coast Guard, an arm of the National Police, is a well-established force equipped with about 40 lightly armed patrol craft. The Coast Guard's inventory of small, aging craft does not allow it to patrol effectively at night or in rough weather—missions the new Navy with its more capable missile boats undoubtedly will undertake to lessen Kuwaiti vulnerability to infiltration.

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Bahrain's Coast Guard is a moderately efficient force of about 200 men. Manned largely by expatriates who are concentrated in supervisory and maintenance positions, it operates 17 to 20 modern, mainly unarmed patrol craft.

Qatar's Coast Guard—on which we have little information—operates about 17 small patrol craft.

The UAE's Coast Guard is under the control of the Ministry of the Interior and has about 40 lightly armed patrol craft. Although its largely expatriate personnel are relatively efficient, the Coast Guard's small size and the limited capabilities of most of its patrol vessels make it suitable mainly for operations in and around major harbors. The Navy retains primary responsibility for the security of the UAE's extensive offshore oil facilities.

A Kuwaiti fast missile attack craft built by West Germany. These ships carry Exocet MM-40 antiship missiles, which are also in service with the navies of Oman, the UAE, Qatar, and Bahrain.



The combat effectiveness of these forces is limited and, in our view, will probably remain marginal for some time. Integration of the new warships into inexperienced services already short of skilled manpower will probably prove difficult. We anticipate some delay before most emirate navies can effectively maintain and tactically employ their new vessels. Moreover, none of the navies have any mine warfare capability and, because of severe shortages of skilled manpower, are unlikely to acquire suitable ships in the near future. Furthermore, except for Qatar, none currently have an infantry force with dedicated transport capable of responding to attacks on offshore facilities.

Kuwait. To reinforce its hard-pressed Coast Guard, Kuwait in the early 1970s decided to establish a navy. The embryonic fleet has just received its first combatants—eight Exocet-armed TNC-45 and FPB-57 patrol craft ordered from West Germany in 1981. All will be stationed at the new naval base at Ra's al Qulay'ah just south of Kuwait city. Crews have been undergoing training in West Germany for some time, and Embassy reporting suggests that the Kuwaitis will press the recently arrived ships into service as soon as possible because of the current situation in the Gulf. Kuwait also operates several utility landing craft and has ordered six French Super Puma helicopters armed with Exocet AM-39 antiship missiles that,

should be delivered by early 1985.

We believe that the Kuwaiti Navy will probably prove only marginally effective for at least a year as it attempts to integrate its new warships. Chronic manpower shortages common to the Army and the Air Force undoubtedly also will plague the Navy.

the Kuwaitis, who already employ Pakistani naval personnel, have approached the Indians to provide naval crews. As in all the Gulf militaries, the expatriates probably will fill mainly technical billets for which there is a shortage of qualified Kuwaitis. The Kuwaitis also will have to develop a set of tactics appropriate to their defensive needs as well as establish doctrine covering employment of land-based air support, over-the-horizon targeting of the Exocet MM-40 missiles, and cooperation with the Army in coastal security operations. Although US Embassy sources report that Kuwait has expressed interest in eventually acquiring Hovercraft, mine warfare vessels, and additional missile boats, we believe the Navy probably will be too preoccupied absorbing its recent acquisitions to consider seriously further procurement for one to two years.

Bahrain. Under the leadership of a seconded Pakistani naval officer, Bahrain is building a navy to supplement its Coast Guard. Manama received its second West German TNC-45 Exocet boat in late 1984, and the US Embassy reports that a third may

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The Damsah, one of Qatar's three French-built missile boats



have been ordered. The Bahrain Naval Wing also operates two recently acquired West German patrol gunboats armed with 40-mm guns and one landing craft.

Bahrain is constructing a hardened naval command center with advanced communications equipment. Embassy sources indicate that a British Royal Marine detachment arrived in early 1984 to train a newly formed Army commando company that may eventually participate in coastal security operations with the Navy. The island monarchy, which boasts the most extensive ship repair facilities of the Arab Gulf states and is strategically located off the Saudi coast near major Saudi Air Force facilities, could eventually serve as a focal point for Gulf Arab naval operations in the northern Gulf.

We believe the Navy's combat effectiveness is limited and anticipate that absorption of the four new West German patrol vessels will occupy it fully for one to two years. Information on training and operations is limited, but they appear to be at a rudimentary stage. A US military source reports that patrols are less than four hours long and are never conducted at night. Air Force helicopters drill with the Navy once a month. The Navy conducts occasional firing exercises, although we do not know if it has launched an Exocet and doubt it has practiced over-the-horizon targeting. In addition, the Naval Wing remains reliant to some degree on expatriates—primarily Pakistanis. The lure of higher paying civilian jobs and a prohibition on the recruitment of the island's majority Shia population into the military could keep the Navy indefinitely

dependent on expatriates, especially in technical positions. Personnel restrictions also are likely to hinder further naval expansion. Although the US Embassy cites ambitious plans for a 24-ship force by the end of the decade, manpower constraints will probably discourage further warship acquisitions in the near term.

Qatar. Over the past two to three years, Qatar has constructed the nucleus of a more effective coastal defense force. To supplement its six British-built gunboats, Qatar received three Exocet-equipped missile boats and two truck-mounted Exocet batteries from France last year. Six of eight SH-3D helicopters with Exocet AM-39 antiship missiles remain to be delivered. In addition, Qatar's 200-man Army commando unit, according to Embassy reporting, has received training from the British SAS/SBS in defending offshore facilities. The Qataris now have four Westland Commando helicopters for the unit, and six more on order.

The Navy, however, continues to experience problems. Although the La Combattante—class ships delivered to Qatar are individually the most heavily armed patrol ships in any emirate navy, we do not believe Qatar can make full use of them at present. There are no indications that the Navy exercises or patrols frequently, and we are unaware of attempts to fire an Exocet missile. Moreover, Embassy sources in Doha 25**X**1

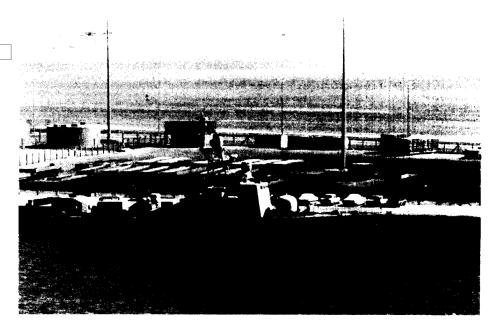
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One of the United Arab Emirates' six West German-built fast missile attack craft at its base in Abu Dhabi.



indicate that the Navy is experiencing severe difficulties manning its ships and depends heavily on foreign personnel—including Pakistanis and Egyptians—for maintenance and crews. Such problems not only are likely to preclude further expansion in the near future but also inhibit absorption of recently delivered equipment.

United Arab Emirates. The United Arab Emirates are particularly vulnerable to attack by naval forces. To defend its almost 700-km long coastline, extensive offshore oil facilities, and several islands in dispute with Iran, the UAE has only six West German-built TNC-45 missile boats, six British-supplied gunboats, and about 40 lightly armed coastal patrol boats. UAE leaders recently emphasized the country's inability to patrol its coastline adequately by telling US officials that they had been unaware that Iran had seized a ship in UAE waters until told by their Gulf allies. Furthermore, one of the UAE's major export terminals is located at the end of an intricate, 120-km channel that is highly vulnerable to mining.

The 1,250-man Navy's small size, heavy reliance on expatriate personnel, and inadequate training sharply limit its combat effectiveness, in our view. UAE naval officers told US naval personnel in July 1984 that the missile boat squadron was about 85 to 95 percent

operational, was generally well maintained, had conducted patrols during daylight hours, and had test-fired two Exocets in 1983, scoring one hit. They stressed, however, that operational planning and interservice cooperation were almost nonexistent and maintained that the Navy rarely conducted tactical maneuvers. The UAE officers also underscored the Navy's critical lack of native manpower. Sudanese, Egyptians, and Omanis serve in the Navy, primarily in the enlisted ranks. The officers reported that the Navy has no immediate plans to acquire additional missile boats, patrol aircraft, or helicopters.

# The Gulf States' Navies and the Regional Maritime Balance

A naval power vacuum exists in the Persian Gulf, in our analysis. No one state or combination of states can control the sea lanes through the Gulf. Despite the extensive GCC state naval modernization programs undertaken over the past decade, the deterioration of the Iranian Navy's effectiveness has not been offset by the rise of other regional maritime forces capable of dominating Gulf waters as the Shah's

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#### The Iranian Navy

Iran's Navy, once the most powerful in the Gulf, has deteriorated since the revolution and the beginning of the Iran-Iraq war. Following the Shah's overthrow, dismissals and arrests of key officers, the departure of foreign technicians, a Western embargo on new sales and spare parts shipments, and widespread desertions contributed to a steady decline in the Navy's combat effectiveness. The outbreak of the war with Iraq found the fleet capable of little more than periodic coastal patrolling, although, in conjunction with the Iranian Air Force, it managed to deny Iraq use of the Gulf to export its oil by attacking and seriously damaging two Iraqi offshore platforms in 1980

Since then the Navy has seen little combat, although it has continued to operate extensively. In the northern Gulf, Iranian warships escort merchant convoys and patrol off Jazireh-ye Khark (Khark Island) and around Iranian offshore oil platforms. Because of the Iraqi air threat, most of the larger warships have remained in the southern Gulf at Bandar-e 'Abbas carrying out patrols near the Strait of Hormuz. Embassy reporting indicate that Iranian warships periodically violate UAE territorial waters on reconnaissance missions, occasionally stop merchant ships to ascertain if they are carrying arms for Iraq, and observe Gulf military exercises.

Shortages of spare parts and other difficulties have led to severe operational problems. We estimate that only one of the Navy's three destroyers and five to eight of its 11 Harpoon missile attack craft are seaworthy. All four guided-missile frigates appear to be operational. We believe all Iranian warships are experiencing numerous mechanical problems, including nonoperational fire-control systems, radar malfunctions, and engine breakdowns. Shortages of spare parts have led to cannibalization of some ships, especially among the heavily used fast missile attack craft. A shortage of qualified technicians probably also has contributed to the fleet's problems. In addition, we believe that Iran has few operational Harpoon missiles remaining—a devastating blow to the fleet's offensive power since the surface-to-surface missiles mounted on other Iranian ships are much less effective than the Harpoon. Overall naval combat losses so far have been light. They include one missile patrol boat and two large patrol craft. Accidents accounted for the loss of two corvettes.

Navy once did. Iran also continues to enjoy the benefits of its favorable geographic position. Tehran's coastline extends down the entire Gulf, and Iran has constructed several major air and naval bases along its length. Thus, the Iranians can concentrate their forces more easily than the Arab Gulf states.

We judge that the Gulf states' navies are presently capable of limited coastal defense operations. The inexperience of most Gulf Arab fleets—with the exception of Oman—confines them largely to coastal patrolling during daylight hours. Complex tactical maneuvers and operations such as escorting convoys remain beyond the competence of most Gulf navies.

In addition, limited shipboard air defense weapons and inadequate procedures for coordinating land-based air support leave GCC warships vulnerable to air attack, especially in the southern Gulf beyond the range of the Saudi Air Force. The advanced antiship missiles aboard almost all Gulf Arab warships, however, are capable of sinking or seriously damaging hostile surface ships.

Despite the numerous weaknesses of their new navies, the position of the Gulf states in the regional maritime balance is made more favorable by the Iranian Navy's 25X1

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#### The Iraqi Navy

The Iraqi Navy, which consists of a handful of Soviet-built missile attack craft, minesweepers, and landing craft, has played an insignificant part in the Iran-Iraq war. The Navy's small size, poor training, Iranian naval superiority, and the ease with which Iraq's 40-km coastline can be blockaded have limited its effectiveness. Combat losses have included three to four missile boats from naval and air attacks.

Iraq, however, has embarked on a major naval expansion program. Four guided-missile frigates, six guided-missile corvettes, and one fleet oiler are nearing completion in Italy—a force that will transform Iraq into a major Gulf naval power when all of the ships are completed and delivered in the late 1980s. All of the new Iraqi warships will mount Otomat MKII surface-to-surface missiles, and the Iraqi frigates will carry the Italian Aspide SAM system. Given the risk of sailing them to Iraq, the new ships—the first of which will be completed next year—probably will be unavailable for operations in the Gulf until the war with Iran ends. Moreover, even after they arrive, we anticipate that the Iraqis will experience problems similar to those of the Arab Gulf states as they attempt to absorb a large amount of complex equipment and develop effective procedures for coordinating land-based air support. In addition, because it must operate from Iraq's already overcrowded port facilities along its short coastline, the Navy will be vulnerable to surprise attacks and blockades.

With 25 Exocet-configured Mirage F-1 and Super Etendard aircraft as well as 12 similarly equipped Super Puma helicopters in hand or soon to be delivered, Baghdad has the most potent maritime strike capability in the Gulf. In combination with Iraq's large, well-equipped Air Force, its fleet of maritime strike aircraft could eventually threaten to close the entire northern Gulf to surface shipping.

poor materiel condition and its preoccupation with the Iran-Iraq war. We judge the Iranian fleet's overall offensive capability to be severely limited. Moreover, he deterioration of the Iranian Air Force has severely curtailed its ability to support Iranian naval operations. Although the Iranians could probably muster sufficient operational ships and aircraft to conduct damaging raids against the long, poorly defended southern Gulf coasts, harass Gulf merchant shipping in this area, and engage in limited mine warfare, sustained offensive operations would prove extremely difficult. Nonetheless, given the small size and inexperience of most Gulf Arab navies, even a debilitated Iranian fleet that is imaginatively employed still poses a significant threat.

If Tehran wishes to strike at the GCC states with maritime forces, we believe its most successful options would be:

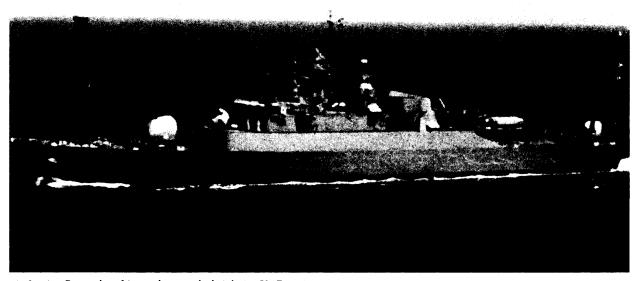
- Mine warfare, against which the Gulf states have almost no defense. Tehran is attempting to upgrade its mine warfare capability, and we estimate that it probably has several hundred crude contact mines. This number, we believe, is sufficient to carry out a sporadic but long-term mining campaign in the Gulf.
- Nighttime infiltration by irregulars in small boats or Hovercraft onto the Arabian Peninsula or commando strikes against offshore facilities. Such attacks would most likely be mounted against the UAE, Qatar, Bahrain, or Kuwait, which have weaker defenses than Saudi Arabia. Aiding any infiltration attempt will be the Gulf Arab states' lack of a coastal radar network and the command, control, and communications capabilities necessary to ensure prompt detection and response to infiltration efforts.
- Commerce raiding by individual ships or aircraft against Gulf merchant shipping. Again, because of Saudi air superiority in the northern Gulf, operations of this type probably would be confined to the south. The Iranians also have Revolutionary Guards and numerous small boats available for attacks against shipping should they not wish to risk losing one of their larger combatants to the advanced antiship missiles now carried by many GCC state naval vessels.

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An Iranian Saam-class frigate photographed violating UAE territorial waters in 1984. Note absence of national flag or pennant number

## Implications for the United States

Recent and impending acquisitions of missile attack boats, guided-missile frigates, and helicopters armed with antiship missiles will, when fully assimilated, considerably improve the heretofore almost nonexistent naval combat capabilities of the Gulf Cooperation Council states. We judge that the Gulf navies will eventually evolve into more effective coastal defense forces and prove more capable of challenging an Iranian attempt to blockade their ports or attack Gulf coastal shipping and offshore facilities with conventional surface forces. Recent attacks by Iran and Iraq on Gulf shipping, as well as longer term regional naval challenges, should foster expanded Gulf naval cooperation. A few small joint exercises already have taken place, and we anticipate that next year's joint Peninsula Shield exercise will include a naval element for the first time. In addition, the modern warships now entering service in the Gulf navies could eventually be useful supplements to Western naval forces operating in the area.

Still, because the Gulf states' naval power remains largely in the developmental stage, we believe that at least over the near term the United States and other Western powers will be ultimately responsible for securing the sea lanes through the Gulf. A serious Iranian effort in the near term to interdict Gulf shipping with naval forces, aircraft, or mines especially in the southern Gulf—would probably prompt the Gulf Arabs to request external assistance. The Arab Gulf states probably would ask for Western mine warfare forces to help them sweep ports as Saudi Arabia did during the Red Sea mining crisis of August-September 1984. Heightened attacks on shipping also could prompt calls for Western assistance in organizing and escorting convoys such as the Saudi request for US assistance in forming convoys following the resumption of Iranian attacks on merchant shipping in the southern Gulf in September 1984.

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The need for Western intervention could decline over the next two years as Saudi Arabia and its allies become more proficient with their new warships and improve cooperation. Should the Saudi Air Force acquire Harpoon missiles for its F-15s and improve coordination with the Navy, the threshold for Western assistance could rise still further. Even when all of their recent acquisitions are fully assimilated, however, the Gulf states' naval forces will be best suited for coastal defense duties. We judge, therefore, that the Gulf states will continue to rely on Western assistance to secure freedom of navigation around the Arabian Peninsula

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# Appendix A

# Major Warships in the Persian Gulf Navies

|                               | Artemiz-Class<br>Guided-Missile<br>Destroyer | Babr-Class<br>Guided-Missile<br>Destroyer | Saam-Class<br>Guided-Missile<br>Frigate | Lupo-Class<br>Guided-Missile<br>Frigate | F-2000-Class<br>Guided-Missile<br>Frigate                    |
|-------------------------------|----------------------------------------------|-------------------------------------------|-----------------------------------------|-----------------------------------------|--------------------------------------------------------------|
| Navy                          | Iran                                         | Iran                                      | Iran                                    | Iraq                                    | Saudi Arabia                                                 |
| Number in service in Gulf     | 1                                            | 2                                         | 4                                       | 4 (under construction)                  | 4 (under construction)                                       |
| Builder                       | United Kingdom                               | United States                             | United Kingdom                          | Italy                                   | France                                                       |
| Full-load displacement (tons) | 3,360                                        | 3,320                                     | 1,540                                   | 2,500                                   | 2,610                                                        |
| Maximum speed (knots)         | 31                                           | 34                                        | 39                                      | 35                                      | 30 (half load)                                               |
| SSM                           | 8 Standard (RGM<br>66F)                      | 8 Standard (RGM<br>66F)                   | 5 Sea Killer MKII                       | 8 Otomat MKII                           | 8 Otomat MKII                                                |
| SAM                           | SEACAT                                       |                                           | 18 SEACAT                               | 8 Aspide                                | 26 Crotale                                                   |
| Guns and other weapons        | 4 115 mm<br>2 40 mm                          | 4 127 mm                                  | 1 115 mm<br>2 35 mm                     | 1 127 mm<br>4 40 mm                     | 1 100 mm<br>2 40 mm<br>ASW torpedoes<br>1 Dauphin helicopter |
| Complement                    | 270                                          | 274                                       | 125                                     | 185                                     | 179                                                          |

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## Appendix B

| Guided-Missile Corvettes<br>and Fast Attack<br>Craft in Persian Gulf Navies |                                                                             |                                               |                                                 |                                                |                                                    |                                                                                              |                                                |                                                |                                          |
|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------|------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------|
|                                                                             | "Badr"-Class Guided-<br>Missile Corvette                                    | "Assad"-Class Guided-<br>Missile Corvette     | A1-Siddiq-Class<br>Fast Missile<br>Attack Craft | Province-Class<br>Fast Missile<br>Attack Craft | La Combattante III<br>Fast Missile<br>Attack Craft | La Combattante II<br>Fast Missile<br>Attack Craft                                            | Lurssen TNC-45<br>Fast Missile<br>Attack Craft | Lurssen FPB-57<br>Fast Missile<br>Attack Craft | Osa-I/II<br>Fast Missile<br>Attack Craft |
| Navy                                                                        | Saudi Arabia                                                                | Iraq                                          | Saudi Arabia                                    | Oman                                           | Qatar                                              | Iran                                                                                         | Kuwait, United Arab<br>Emirates, and Bahrain   | Kuwait                                         | Iraq and South Yemer                     |
| Number in service in Gulf                                                   | 4                                                                           | 6 (under construction)                        | 9                                               | 3                                              | 3                                                  | 11                                                                                           | 14                                             | 2                                              | 18                                       |
| Builder                                                                     | United States                                                               | Italy                                         | United States                                   | United Kingdom                                 | France                                             | France                                                                                       | West Germany                                   | West Germany                                   | USSR                                     |
| Displacement (tons)                                                         | 815                                                                         | 685                                           | 384                                             | 363                                            | 395                                                | 275 (full load)                                                                              | 255                                            | 410                                            | 215 (I), 245 (II)                        |
| Maximum speed (knots)                                                       | 30                                                                          | 37                                            | 38                                              | 40                                             | 38.5                                               | 38                                                                                           | 40                                             | 36                                             | 34                                       |
| Missiles                                                                    | 8 Harpoon                                                                   | 6 Otomat MKII<br>Aspide SAM                   | 4 Harpoon                                       | 6 Exocet MM-40                                 | 8 Exocet MM-40                                     | 4 Harpoon                                                                                    | 4 Exocet MM-40                                 | 4 Exocet MM-40                                 | 4 SSN-2-B STYX                           |
| Guns                                                                        | 1 76 mm<br>2 20 mm<br>2 20 mm Phalanx<br>close-in-weapons<br>systems (CIWS) | 1 76 mm<br>2 40 mm                            | 1 76 mm<br>2 20 mm<br>1 20 mm Phalanx<br>(CIWS) | 1 76 mm<br>2 40 mm                             | 1 76 mm<br>2 40 mm<br>2 30 mm                      | 1 76 mm<br>1 40 mm                                                                           | 1 76 mm<br>2 40 mm                             | 1 76 mm<br>2 40 mm                             | 4 30 mm                                  |
| Complement                                                                  | 58                                                                          | 51                                            | 38                                              | 40                                             | 40 to 50                                           | 31                                                                                           | 40 to 50                                       | 40                                             | 30                                       |
| Notes                                                                       |                                                                             | Two ships of class will<br>carry helicopters. |                                                 |                                                |                                                    | One believed lost in<br>combat. Iran has few<br>Harpoon missiles re-<br>maining operational. |                                                |                                                |                                          |

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